

IN THE CLAIMS

1. An electrosurgical pencil, comprising:
 - an elongated housing;
 - an electrocautery electrode supported within the housing and extending distally from the housing, the electrocautery electrode being connected to a source of electrosurgical energy;
 - a plurality of activation switches supported on the housing, each activation switch being configured and adapted to selectively complete a control loop extending from the source of electrosurgical energy upon actuation thereof; and
 - at least one voltage divider network supported on the housing, the at least one voltage divider network being electrically connected to the source of electrosurgical energy for controlling the intensity of electrosurgical energy being delivered to the electrocautery electrode.
2. The electrosurgical pencil according to claim 1, wherein at least one activation switch is configured and adapted to control a waveform duty cycle to achieve a desired surgical intent.
3. The electrosurgical pencil according to claim 2, further including three mode activation switches supported on the housing.

4. The electrosurgical pencil according to claim 3, wherein each mode activation switch delivers a characteristic signal to the source of electrosurgical energy which in turn transmits a corresponding waveform duty cycle to the electrosurgical pencil.

5. The electrosurgical pencil according to claim 3, wherein a first activation switch delivers a first characteristic signal to the source of electrosurgical energy which in turn transmits a waveform duty cycle which produces a cutting effect, a second activation switch delivers a second characteristic signal to the source of electrosurgical energy which in turn transmits a waveform duty cycle which produces a blending effect, and wherein a third activation switch delivers a third characteristic signal to the source of electrosurgical energy which in turn transmits a waveform duty cycle which produces a coagulating effect.

6. The electrosurgical pencil according to claim 5, wherein the voltage divider network is a potentiometer.

7. The electrosurgical pencil according to claim 6, wherein the potentiometer is a rheostat having discrete values and configured and adapted to adjust the intensity of the waveform duty cycle corresponding to a particular activation switch.

8. The electrosurgical pencil according to claim 7, wherein the potentiometer has a plurality of intensity settings.

9. The electrosurgical pencil according to claim 8, wherein the potentiometer is configured and adapted to vary a current intensity from a minimum of about 60 mA to a maximum of about 240 mA at 2K ohms.

10. The electrosurgical pencil according to claim 8, wherein the potentiometer is configured and adapted to vary a current intensity from a minimum of about 100 mA to a maximum of about 200 mA at 2K ohms.

11. The electrosurgical pencil according to claim 10, wherein the potentiometer is slidably supported on the housing.

12. The electrosurgical pencil according to claim 11, wherein the potentiometer is set to a minimum when the potentiometer is placed at a first position and is set to a maximum when the potentiometer is placed at a second position.

13. The electrosurgical pencil according to claim 12, wherein the potentiometer is configured and adapted to provide a plurality of discrete intensity settings.

14. The electrosurgical pencil according to claim 1, wherein the at least one voltage divider network is rotatably supported on the housing.

15. The electrosurgical pencil according to claim 13, wherein the electrocautery electrode is one of a blade, needle, a loop and a ball.

16. The electrosurgical pencil according to claim 13, wherein the voltage divider network is a slide potentiometer and includes a pair of nubs slidably supported, one each, on either side of the plurality of activation switches such that the potentiometer is operable from either side of the electrosurgical pencil.

17. The electrosurgical pencil according to claim 16, wherein the housing includes a recess formed in the outer surface thereof, and wherein the plurality of activation switches and the nubs of the voltage divider network are disposed within the recess.

18. The electrosurgical pencil according to claim 2, further including a molded hand grip operatively supported on the housing.

19. The electrosurgical pencil according to claim 18, wherein the hand grip is shaped and dimensioned to reduce fatigue on the hand of the user.

20. An electrosurgical pencil, comprising:
an elongate housing;
an electrocautery end effector supported within the housing and extending distally from the housing;
a plurality of mode activation switches supported on the housing, wherein each mode activation switch is configured and adapted to energize the end effector with electrosurgical energy; and
at least one voltage divider network supported on the housing, wherein the at least one voltage divider network is configured and adapted to control the intensity of the electrosurgical energy being delivered to the electrocautery electrode.

21. The electrosurgical pencil according to claim 20, wherein each mode activation switch is configured and adapted to energize the end effector with a waveform duty cycle to achieve a desired surgical intent.

22. The electrosurgical pencil according to claim 20, wherein the electrosurgical pencil includes three mode activation switches supported on the housing, wherein each of the three mode activation switches is configured and adapted to deliver a characteristic signal to a source of electrosurgical energy which source of electrosurgical energy in turn transmits a corresponding waveform duty cycle to the end effector.

23. The electrosurgical pencil according to claim 22, wherein a first mode activation switch activates a waveform duty cycle which produces a dissecting effect, a second mode activation switch activates a waveform duty cycle which produces a dissecting and hemostatic effect, and a third mode activation switch activates a waveform duty cycle which produces a hemostatic effect.

24. The electrosurgical pencil according to claim 23, wherein the at least one voltage divider network includes a pair of nubs slidably supported on the housing, one each, on either side of the activation switches.

25. The electrosurgical pencil according to claim 24, wherein the at least one voltage divider network has a first position corresponding to a minimum intensity, a second position corresponding to a maximum intensity and a plurality of other positions corresponding to intensities between the minimum and the maximum intensity.

26. The electrosurgical pencil according to claim 25, wherein the at least one voltage divider network is configured and adapted to vary a current intensity from a minimum of about 60 mA to a maximum of about 240 mA at 2K ohms

27. The electrosurgical pencil according to claim 25, wherein the at least one voltage divider network is configured and adapted to vary a current intensity from a minimum of about 100 mA to a maximum of about 200 mA.

28. The electrosurgical pencil according to claim 25, wherein the at least one voltage divider network is set to the minimum when the at least one voltage divider network is placed at a proximal-most position and is set to the maximum when placed at a distal-most position.

29. The electrosurgical pencil according to claim 25, wherein the at least one voltage divider network is set to the minimum when the at least one voltage divider network is placed at a distal-most position and is set to the maximum when placed at a proximal-most position.

30. The electrosurgical pencil according to claim 28, wherein the at least one voltage divider network is configured and adapted to provide a plurality of discreet intensity settings.

31. The electrosurgical pencil according to claim 28, wherein the at least one voltage divider network is configured and adapted to provide analog intensity settings.

32. The electrosurgical pencil according to claim 27, wherein the waveform duty cycle of the activation switches varies with a change in intensity produced by the at least one voltage divider network.